

Editorial: “Addressing the stroke evidence-treatment gap”.

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Globally, stroke is one of the world’s largest contributors to mortality, and a leading cause of long-term disability. Yet, this remains an area of healthcare that continues to receive little attention through the media. A quick google search for stroke related news coverage will not reveal much information in comparison to other chronic diseases or cancers. While there is a focused global movement to raise awareness of stroke within the community, there is urgent need for vital stroke funding to improve gaps in evidence-based stroke care. We are faced with a public health crisis. Stroke kills more women than breast cancer and more men than prostate cancer, and is recognised as a major health priority internationally. Stroke does not discriminate, two thirds of strokes impact older men and women with one third of all stroke impacting people of working age, under the age of 65. Stroke will affect one in every six people in their lifetime. Further, Aboriginal and Torres Strait Islander peoples are up to three times more likely to have a stroke than non-indigenous Australian’s, and twice as likely to die from stroke than non-indigenous Australian’s.¹

The burden of stroke is inescapable; this more-often-than-not sudden onset, life changing and devastating event impacts individuals and families in addition to placing a large economic burden on communities. More than two-thirds of stroke survivors will experience some residual functional or cognitive disability, which impedes their ability to live independently and go about their normal activities of daily living.² This editorial aims to highlight some of the evidence-treatment disparities that exist within stroke care, and drive discussion in nursing for political action on stroke. The current state of stroke care needs investment and the public deserve access to evidence-based stroke care.

To prevent an even greater epidemic, there must be greater focus on both the primary and secondary prevention of stroke. The FAST (Face, Arms, Speech & Time) campaign has been hugely successful in raising awareness of the signs and symptoms of stroke, and aiding recognition to get assessment and treatment quickly.³ Research led by Bray and colleagues (2011) has been able to demonstrate the effectiveness of the FAST campaign. Their work demonstrates that ambulance dispatches have increased for stroke after the Stroke Foundation's FAST campaigns began and in particular during those years where greater funding was dedicated. There is an ongoing need to increase awareness of FAST and continue improving these campaigns in response to continuous evaluation.³ Targeting groups with low awareness should be the priority.^{4,5} Governments need to commit to investing in evidence-based public health awareness raising campaigns such as FAST. These types of interventions are vital to reduce the burden of stroke.

Over the last two decades there have been vast pharmacological and non-pharmacological advancements in the treatment of acute stroke. Stroke care has changed dramatically. Innovations in stroke treatment include strong evidence that supports organised inpatient acute stroke unit care⁶, treatment with thrombolysis (r-tPA)⁷, embolectomy⁸ and nurse-led treatment protocols that address fever and glycaemia management, and screening for swallowing dysfunction.⁹ Access to specialised stroke units improves outcomes for stroke survivors.⁶ These units provide multidisciplinary care, lead to improved outcomes including functional outcome, quality of life and mortality. Yet, 2011 National Stroke Foundation audit data found that 58% of patients were accessing stroke unit care. By 2015 this rate had increased to 67% however further analysis shows that up to two-thirds of patients fail to receive the full benefits that stroke unit care can provide.¹⁰ These data highlights the extent to which the evidence-treatment gap currently exists within Australia as many are still denied access to these lifesaving units of excellence. This may be due to the vast geographical spread of the nation's population; however there remains opportunity for innovation, such as the provision of telehealth services and mobile stroke units that have the ability to provide pre-hospital diagnostics and thrombolysis. Such innovations are beginning to emerge in pre-hospital stroke care in the USA, UK and Europe, where there has been funding provided to support this innovation.

Thrombolysis with r-tPA saves lives. This not-so-novel treatment improves functional outcome, however it is vital that patients are assessed and treated within the 4.5 hour window of opportunity. Within Australia our rates of thrombolysis for ischaemic stroke are only a startling 7%.¹¹ More worryingly, as a nation our rates of thrombolysis have remained at this 7% for the last 5 years.¹¹ This is a complex and multi-faceted problem. There are some key components in this, including; 1) the general public recognising stroke signs and getting medical attention FAST; and 2) the health system response whereby patients can access lifesaving treatment within the window of opportunity. If only 7% of cancer patients were receiving a lifesaving drug, there would be outrage and this current standard of care needs urgent international attention and investment.

In the USA the introduction of comprehensive stroke centres (CSC) has allowed delivery of care *'of the highest quality, to the most complex of cases and offers the most up to date evidence based treatments with cutting edge research protocols'*.¹² Our health system needs to provide at a minimum of one of these centres in every states and/or large population setting.

Transitions of care, including access to follow up care for stroke survivors transitioning from hospital is not adequately meeting patient care needs. There have been much advancement in improving

stroke care, but there remains a lot of work to be done to improve the standards of care for stroke survivors and their families once they have left the hospital door. There is continuing research to improve the provision of inpatient acute stroke services, audit data provides a wonderful mechanism for feedback to clinical staff to improve care provision. However, there has been little progress in supporting people once they have left the hospital door. There needs to be continued research and innovation in post-acute services. For example services such as Stroke Connect, a phone service that connects stroke survivors with a healthcare professional who is able to make referrals and check in with the stroke survivor and their caregiver, once they have left hospital should be available to all. This is a relatively low-cost and simple service to provide. Access to telehealth services is a solution that breaks down some of the geographical inequities that exist in treatment. Programs such as the Victorian Stroke Telemedicine program allows clinicians to collaborate across rural, regional and metropolitan hospitals to provide evidence based treatment advice to patients with stroke symptoms (<http://www.vst.org.au>). This innovative program bridges the urban-rural treatment gap.¹³ There is an urgent need to fund and upscale such innovative solutions. Post discharge planning disease targeting has been shown to be effective in a range of other chronic cardiovascular diseases including heart failure¹⁴ and atrial fibrillation¹⁵, however there remains a significant research gap to provide evidence of utility in stroke. These services can be very effective in reducing potentially avoidable hospital readmissions, and providing referrals to other healthcare professionals or services.

Without these follow-up services, the exacerbation of anxiety and depression that is common after stroke is likely. Point prevalence rates for depression and anxiety after stroke are 31% and 18-25% respectively.^{16,17} It is very important to screen for this in the inpatient and community setting.¹⁸ Nurses have a role in this as well as in the prevention of, and intervention for, emotional problems. A stepped care approach has been proposed to support emotional adjustment after stroke¹⁹ with potentially much within the skill repertoire of nurses. This aside there is a paucity of research into effective psychosocial treatments for emotional disorder after stroke particularly for those with aphasia or more severe cognitive deficits. This research opportunity extends to establishing the overall efficacy of a stepped care approach.

Nurse-practitioner coordinated models of stroke care

Nurse practitioner TIA (transient ischaemic attack) and stroke follow up clinics are a novel solution to complex health workforce issues. These advanced practitioner coordinated models of care are cost effective, improve health outcomes, and are rated favourably by patients.²⁰ Rapid access TIA and stroke clinics may also be helpful in preventing potentially avoidable hospital readmissions.²⁰ Nurse-coordinated, multi-disciplinary care has demonstrated favourable outcomes for a range of other chronic conditions including diabetes, hypertension, hypercholesterolemia, heart failure and atrial fibrillation.^{10,21,22} There is need to expand quality stroke care beyond the hospital. Nurse coordinated models of care in the outpatient rehabilitation, primary and chronic care settings warrant further evaluation.

Access to credible stroke information

The National Stroke Foundation recently launched a new stroke survivor web-based portal called EnableMe (<https://enableme.org.au>). This portal allows stroke survivors, their family, friends and caregivers to access credible information, share tips and techniques to equip stroke survivors in their recovery. For many, this acts as a Facebook-type portal for stroke survivors, where they can not only access information, share stories, but be part of a community and share their experience of living with stroke and enhancing their recovery.

The newly developed Acute Stroke Clinical Care Standard for Australia provides a number of quality statements to the public on the standard of quality of care they should expect to receive for stroke.²³ The standards aim to improve the early assessment and management of stroke, to increase chances of survival and to maximise recovery and reduce the risk of another event.²³ The standards also provide a mechanism to empower of patients and families to understand the evidence based care they ought to be provided with, and what they can expect when being treated for stroke, from the ambulance, to hospital and on through to after care. The standards address the need for caregiver partnership and engagement via the provision of education and training when the stroke survivor is in hospital so as to better equip them to support the transition home. Further, the standard supports the principles of patient centred care and highlights the importance of partnering with patients and caregivers through involvement on case discussions and via a shared decision making process.

Finally, evidence of our ability to successfully translate research into practice is only available through the acquisition of data. The Australian Stroke Clinical Registry (AuSCR) (<http://www.auscr.com.au>) and the biennial Stroke Foundation stroke audits provide valuable data, which successfully have been used to drive service improvements.^{24,25} Participation in collection of quality stroke data at the hospital level is vital for improved services yet funding is woefully inadequate.

Nurses and their allies must continue to raise awareness and advocate for critical health policy reform. Stroke has been a recognised health priority for over 20 years; future governments need to action this priority area. Real action is required to address the ongoing unmet needs of stroke survivors.

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